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ABSTRACT

The theory of "reasoned action" is applied to the teaching-learning process. This theory asserts that people use the information available to them in a reasonable manner to arrive at their decisions and that a person's behavior follows logically and systematically from whatever information he has available. To illustrate application of the theory to instructional situations, data is used from teachers in two settings: (1) nurses teaching hospitalized patients; and (2) clinical instructors teaching nursing students. Results indicate that teacher reports of beliefs and attitudes are closely related to their stated behavioral intentions but only weakly related to independent observations of behavior. Because some intentions are more closely related to attitude and others to the subjective norm, the study of teacher intentions can be informative for teaching improvement programs. (Author/JD)

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Incentives and Motivation in the Teaching-Learning Process: The Role of Teacher Intentions

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On this occasion we are honoring the contributions to psychology of Wilhelm Wundt. I shall begin with a story about one of his students. Eighty years ago, Hugo Munsterberg commented on the stream of psychologists and of psychological knowledge which at that time was flowing from Germany to America. He himself had moved from Germany to Harvard but was obviously displeased with the immaturity of the psychology he found in America. "Yes," he wrote, "America now has scholarship, as well as Germany, but it is just as when the Germans claim that they, as well as the Americans, play football; to be sure they do play it, but in cutaways and high collars" (Munsterberg, 1901, p. 616).

By now, American psychologists have gotten better at scholarship. (I am not sure if Germans have gotten better at football.) But we still have much work to do on what I take to be the ultimate question for most psychologists: Why do people do what they do? At one point Wundt himself identified "volition" as the "paradigm psychological phenomenon" (Blumenthal, 1979, p. 549). Yet our dominent orientation to research, the empirical-analytic paradigm, at once insures the rigor of our investigations and also fails adequately to comprehend constructs such as volition, intention, and motivation. According to that paradigm, it is said, human behavior is assumed to have characteristics which exist independent of and external to the intentions and motives of the people involved in the action" (Popkewitz, Tabachnik, and Zeichner, 1979, p. 52). Our challenge is to study human behavior in a way which both acknowledges the phenomenology of the actors, including their intentions, and also employs methods which are scientifically rigorous.

A Model Emphasizing Intentions

My own reflections on the teaching-learning process draw upon the notion of the "intentional teacher." I emphasize teaching as a process where congruence between the intention and the behavior of teachers is critical (Menges, 1977). In this paper, I describe a social-psychological model which emphasizes intentions and its application to the study of teaching. The model is the "theory of reasoned action" identified with Martin Fishbein and Icek Ajzen, and the applications lie in three areas of teaching and learning: a) nurses as teachers of patients, b) clinical teachers and their students, and c) teaching improvement in postsecondary education.

The theory of reasoned action is developed systematically in Fishbein and Ajzen (1975) and Ajzen and Fishbein (1980). It asserts that "people use the information available to them in a reasonable manner to arrive at their decisions" and that "a person's behavior follows quite logically and systematically

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from whatever information he happens to have available" (Ajzen and Fishbein, 1980, p. 244). Available information is summarized in the person's intention to perform a particular behavior, i.e. the behavioral intention.

As presented in the theory, behavioral intention is a function of two components, a) beliefs about the consequences of performing the behavior, or "attitude," and b) beliefs about the views which significant others hold regarding the behavior, or "subjective norm." In a particular instance, each component has a specific weight.

Consider my intention to attend the Twenty-second International Congress of Psychology. If the formation of my intention were being studied according to this model, I would first identify the various consequences of that behavior which are important to me. These consequences include meeting psychologists I would not otherwise meet, sharing my own research with an international audience, hearing Bach's music in the Thomaskirche, struggling to communicate through foreign languages, significantly depleting my savings account, and so on. Some of these consequences are positive and some are negative. The sign of the sum of all salient consequences corresponds to my attitude toward the behavior.

The second component, the subjective norm, reflects my perception of the views of significant others toward the behavior. My participation in the Congress is viewed positively by my Dean, who sees it in terms of prestige for the University, positively by my wife who is travelling with me, somewhat negatively by my children, who are <u>not</u> travelling with me, and so on. Obviously, the influence of those views depends in part on how important each referent is to me.

In a given instance, attitude and subjective norm may be equally influential in forming my behavioral intention or one may have a greater weight than the other. For group data, those weights are statistically estimated by regressing attitude and subjective norm scores on behavioral intention.

A schematic representation of the model is shown in Figure 1. Its most interesting feature, for our purpose, is the separation of attitudes (my feelings about the consequences of the behavior) from the subjective norm (my perception of others' views). This separation amounts to a distinction between personal and social factors. Knowing the weights of these components can be quite informative. For example, Fishbein and Ajzen (1975) describe a survey of college students where the behavioral intention of interest was "to engage in premarital sexual intercourse this semester." Attitude and subjective norm exhibited a significant multiple correlation with behavioral intentions for both males (.85) and females (.93). But the weights of the components differed by sex. For women, the weight of attitude was much higher than the weight of the normative component. For males the weight of attitude was much lower than the weight of the normative component. In other words, for women the personal factor (attitude) was more important than the social factor (subjective norm) while the reverse was true for males.

This model has been applied to a variety of behavioral domains including dieting, voting for specific candidates, using contraceptives, buying particular types of products, signing up for treatment as an alcoholic, and so on.

There have been few applications to teaching and learning, although Groteleuschen and Caulley (1977) discussed the model in terms of continuing professional education. The studies which include data on actual behavior usually depend on self-report for that information. Two recent dissertations in our Instructional Psychology program at Northwestern University have made use of the model and I shall review their findings briefly. I then provide a third application of the model, this one hypothetical, to programs for improving college teaching.

Teaching of Patients

Ann Minnick (1980) studied thirty-two nurses and their teaching interactions with patients. The behavioral intention in question was "routinely including patient teaching as a part of nursing care." Each nurse estimated the probability of engaging in that behavior and reported her attitude toward the behavior using four evaluative semantic differential scales. Each nurse estimated the beliefs of five referents (head nurse, nurses on this unit, my patients, members of my profession, and attending physicians) about the behavior and indicated the importance to her of complying with each of the referents. The correlation of each component with behavioral intention was greater than .70, and their multiple correlation was .82. The weight of attitude (.46) was slightly higher than the weight of the subjective norm (.39).

Actual patient teaching was estimated from the researcher's observations of each nurse during a four-hour portion of a regular shift. Nurses spent from 0 to 55 minutes actually teaching patients. The number of teaching events ranged from 0 to 19, the mode being 2 or 3 events. Behavioral intention was not found to be related to behavior (r = .05). Minnick explains this finding as the result of almost uniformly positive attitudes toward the behavior, apparently due to social desirability bias. In fact, the correlations were significantly negative between attitude and number of minutes spent teaching and between attitude and number of teaching events.

Her findings remind us of the difficulty of obtaining unbiased estimates of the components of attitude, but they do support the predictability of behavioral intention from attitude and subjective norm.

Clinical Teaching

Betty Pugh (1980) investigated clinical teaching in a random sample of nursing programs. She observed 50 teachers of nursing during their clinical interactions with students and obtained a variety of questionnaire data from teachers and students. Each teacher rated a number of observable teaching behaviors regarding a) attitude to the behavior (rated on four evaluative semantic differential scales) and b) perception of how two reference groups (their students and members of their teaching team) view the behavior. They also estimated the probability of personally using each behavior. As an independent measure of the actual behavior, students of these teachers were asked to report the frequency with which the teacher engaged in each behavior.

Data for predicting behavioral intention from attitude and subjective norm and for predicting behavior from the behavioral intention were calculated

for 12 teaching behaviors. All correlations between attitude and behavioral intention were above .88, and all but one correlation between subjective norm and behavioral intention was above .81. Multiple correlations of attitude and subjective norm with behavioral intention ranged from .907 to .975.

As can be seen in Figure 2, weights of the components differ from behavior to behavior. For the first two behaviors, "gives positive reinforcement" and "prepares students for difficult situations," subjective norm weighs more heavily than attitude. For the behavior "shares anecdotal notes with students," on the other hand, attitude has the higher weight. Correlations between behavioral intention and behavior (measured from the students' ratings) are generally low, ranging from 0 to .47 across the 12 behaviors. Although several are statistically significant, they seem to have little practical significance.

Both Minnick's and Pugh's studies are notable in their use of measures of behavior which are independent of the estimate of the actor. The low correlations between behavioral intention and behavior probably reflect measurement problems more than conceptual problems, although Pugh argues that prediction might be improved by including variables such as faculty role identity.

Improving College Teaching

My final example is a hypothetical one. It applies the model to a situation in which college professors are the learners and instructional improvement is the domain of interest. One technique advocated for teaching improvement is communicating student ratings of courses and teachers to the professors who have been rated (Rotem and Glassman, 1979; Levinson and Menges, 1979). Not all research finds that such feedback improves subsequent instruction. In fact, studies tell us little about which factors increase the likelihood that faculty attend to such feedback, translate it into instructional plans, and incorporate it into subsequent teaching. Knowledge about professors' intentions may help to resolve some of these issues.

The relevant behavioral intention might be phrased, "to incorporate data from student evaluations into my teaching." This model first reminds us that information about external variables such as faculty rank or sex is unlikely to be useful in understanding faculty behavior. Likewise, knowledge of attitude toward the object "student ratings" is less informative than knowledge of attitude toward the behavior. The model directs us to obtain a) information about attitude, in terms of the professor's estimate of various consequences of that behavior and b) information about the subjective norm, i.e. the professor's estimate of how significant others (colleagues, department head, students) value the behavior, and c) the relative weights of attitude and subjective norm.

If such data were gathered and subsequently discussed with faculty, the discussion itself could be a useful exercise. For a group of faculty or teaching assistants, weights of the components are helpful in deciding what professional development activities are appropriate. If attitude has the greater weight, for example, faculty might reexamine the consequences they consider to be salient, particularly those which are negative. One possible negative consequence is that giving more attention to student ratings "requires time that I don't want to take away from other activities." Discussing that

consequence and even role playing "what would happen if I allocate my time in this way" might be useful.

If subjective norm has the greater weight, faculty may profit from additional information about the actual views of their most important referents. How does the department head view faculty investing effort in "incorporating data from student evaluations into my teaching?"

Such activities alter the information available to faculty, modifying attitude and subjective norm and in turn altering the behavioral intention. Thus, application of the theory of reasoned action to teaching can yield three positive outcomes: a) data by which the theory can be tested, b) data for use in designing teaching improvement activities, and c) information which increases professors' insight into the determinants of their behavior.

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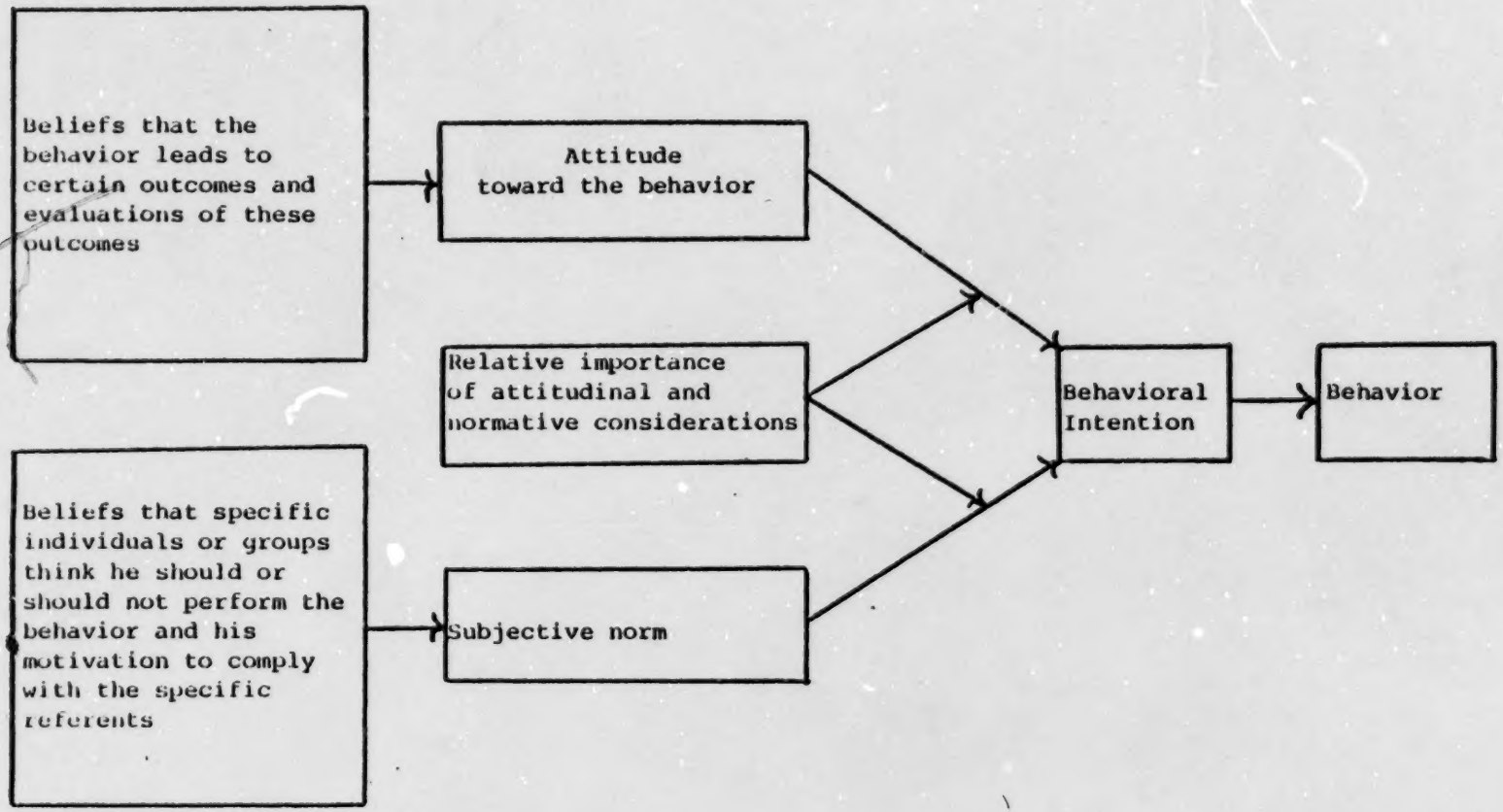
Beliefs that the behavior leads to certain outcomes and evaluations of these outcomes
Attitude toward the behavior
Relative importance of attitudinal and normative considerations
Beliefs that specific individuals or groups think he should or should not perform the behavior and his motivation to comply with the specific referents
Subjective norm
Behavioral Intention
Behavior

Figure 1. Factors determining a person's behavior. Adapted from Ajzen and Fishbein, 1980, p. 5.

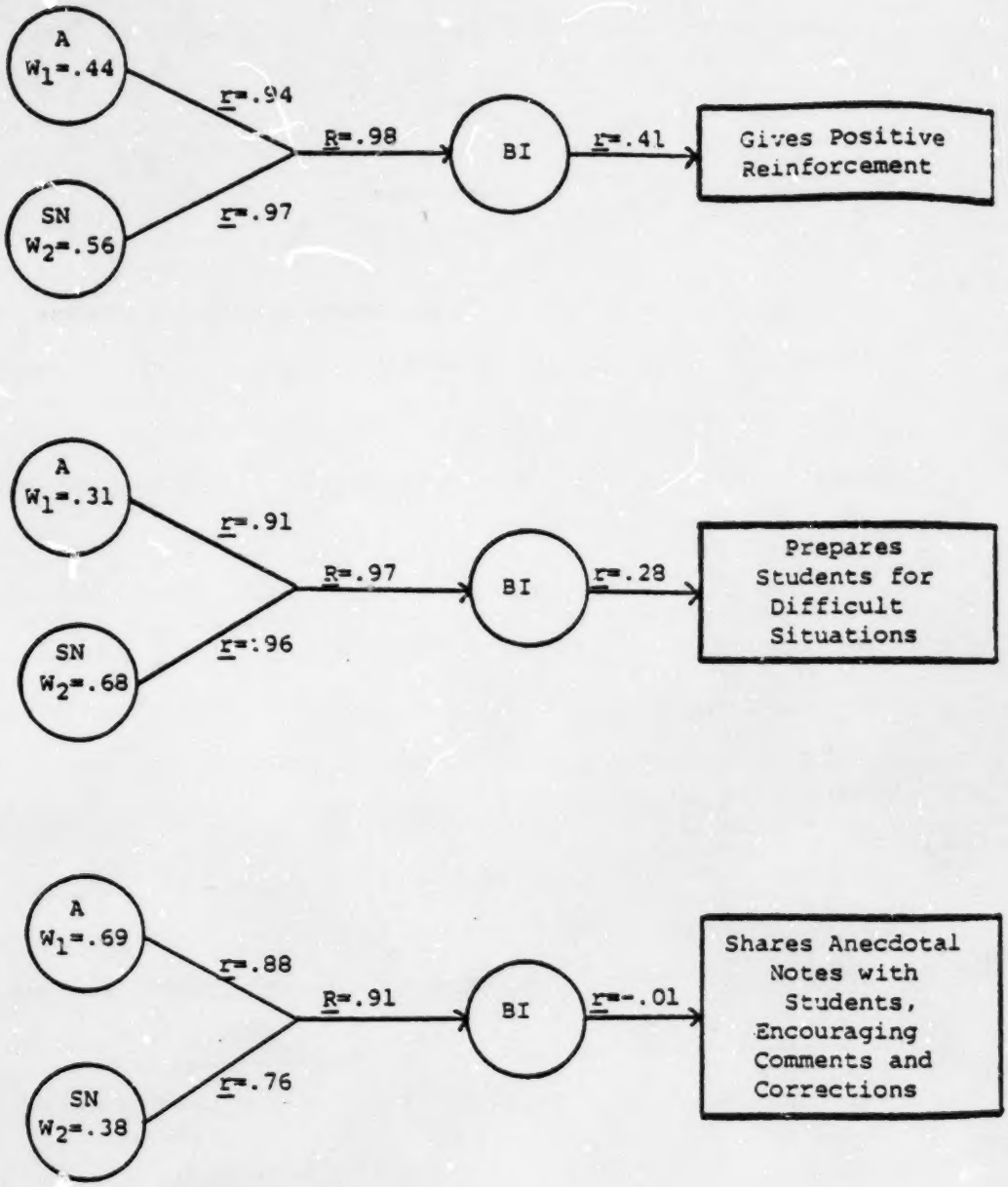

Figure 2. Relationships among attitude, subjective norm, intention, and behavior for three clinical teaching behaviors (from Pugh, 1980).